UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,547	08/27/2003	Messay Amerga	020683	7595

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EXAMINER
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ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/650,547	AMERGA ET AL.
	Examiner	Art Unit	
	Freshteh N. Aghdam	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 July 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-21</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

Previously examiner found claims 8-11, 13, and 15 allowable subject matters, but a new examination of the application indicates that claims 8-11, 13, and 15 are not allowable. The following is the new rejection made by the examiner regarding the original and amended claims.

Applicant's arguments: In page 8, paragraph 3 and page 9, paragraph 1, with respect to independent claims 1, 16, 20 and 21, applicant argues that the claimed invention is not taught or suggested by Aikawa " storing offsets, or of comparing a stored offset with a search result from a plurality of search results when the search result is within a predetermined threshold of the stored offset."

Examiner's response: Regarding independent claims 1, 16, 20, and 21, Aikawa teaches a cell search controller that correlates a received signal with a synchronization sequence to produce a first plurality of search results, each search result comprising at least one of an energy indicator or an offset (chip and/or correlation value) see (Par. 52 and 53); and a processor (Fig. 4, means 24) comparing the stored offset (i.e. chips the number of which corresponds to the predetermined time around the maximum correlation detected path, Par. 53) with the search result offset (chip and/or correlation value) and deleting the corresponding search result from the first plurality of search results when the search result offset (chip) is within a predetermined threshold of the stored offset at section 24 (chips the number of which corresponds to the predetermined

time around the maximum correlation detected path, Par. 53). Aikawa teaches a

searcher (Fig. 1) that detects the maximum correlation paths and the result comprises

the maximum correlation (the largest correlation has the largest energy) and the

corresponding timing or offset of the paths (Par. 41). Aikawa states since the timings

(offsets) of the maximum correlation paths are known it is advantageously possible to

obtain the cell search control compared to the conventional art (Par. 72), wherein the

conventional art requires the processing of all 64 paths need to be processed. Those

paths with timings (offsets) that do not correspond to the detected maximum correlation

paths from the detected paths are excluded (Par. 69).

Specification

The specification is objected to as failing to provide proper antecedent basis for

the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

of the following is required: the limitations of claims 5 and 6 should be added to the

specification in order to overcome the lack of antecedent basis for the claimed subject

matters.

Claim Objections

Claim 13 is objected to because of the following informalities:

As to claim 13, the phrase "time lapsed" lacks antecedent basis at line 2.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 16, 20, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Aikawa (US 2003/0076801).

As to claims 1, 16, 20, and 21, Aikawa teaches a cell search controller that correlates a received signal with a synchronization sequence to produce a first plurality of search results, each search result comprising at least one of an energy indicator or an offset (chip and/or correlation value) see (Par. 52 and 53); and a processor (Fig. 4, means 24) comparing the stored offset (i.e. chips the number of which corresponds to the predetermined time around the maximum correlation detected path) with the search result offset (chip and/or correlation value) and deleting the corresponding search result from the first plurality of search results when the search result offset (chip) is within a predetermined threshold of the stored offset at section 24 (chips the number of which corresponds to the predetermined time around the maximum correlation detected path, Par. 53, 69, and 72).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 3, 12, and 17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Aikawa et al.

As to claims 2 and 17, Aikawa teaches a plurality of scrambling code identifiers

wherein the scrambling code identifiers are responsive to the multi-path deletion section

24 in which contains the predetermined offset table (Fig. 4, 9, 10, and 11; Par. 8, 9, 15,

and 18). One of ordinary skill in the art would clearly recognize that it is well known in

the art to store data in a type of memory.

As to claim 3, Aikawa et al teach a cell search controller in a mobile station,

which receives a signal from a base station (Pg. 1, Par. 2).

As to claim 12, Aikawa teaches a cell search controller that has a fixed threshold

(FIG. 5, Block S14).

Claims 4-6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Aikawa et al, and further in view of Papageorngiou et al (US 2004/0100935).

As to claim 4, Aikawa teaches all the subject matters as recited in claim 1, except

for the received signal comprising a scrambling code transmitted over a plurality of slots

and a synchronization sequence repeated during each slot. Papageorngiou discloses a

received signal comprising a scrambling code transmitted over a plurality of slots and a

synchronization sequence repeated during each slot (Pg. 1, Par. 2; Pg. 3, Par. 62).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the

teaching of Papageorngiou with Aikawa in order to establish slot synchronization.

As to claim 5, Aikawa teaches correcting (section 23) the correlation values

(search results) prior to multipath deletion (step 24) see (Par. 53).

As to claim 6, Aikawa teaches adjusting the threshold value (stored offset) prior

to comparing (Par. 74).

As to claim 14, Aikawa teaches a secondary synchronization sequence detection

block 3 wherein the received signal is inputted to block 3 and the secondary

synchronization sequence establishes frame timing in which each frame comprises of

15 time slots (0-14) and a unique subset of scrambling codes (Fig. 1, 11, and 12; Par. 3

and 8).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aikawa

et al and further in view of Papageorngiou et al, further in view of Mathew et al (US

2004/0161020).

As to claim 15, Aikawa teaches correlating the received signal with the

subsequences in accordance with the offset of one of the first plurality of search results

to identify the respective secondary synchronization sequence (Fig. 9 and 10, means

101, 102, 103, and 104; Par. 7-9). Aikawa is silent about correlating the received signal

with each of the subset of scrambling codes until the correlation value exceeds a

threshold value and generating an indicator to identify the scrambling code transmitted

at the offset of the search result of the first plurality of search results. Mathew, in the

same field of endeavor, teaches correlating the received signal with each of the subset

of scrambling codes until the correlation value exceeds a threshold value and

generating an indicator to identify the scrambling code transmitted at the offset of the

search result of the first plurality of search results (Fig. 4 and 7-9). Therefore, it would

have been obvious to one of ordinary skill in the art to combine the teaching of Mathew

with Aikawa and Papageorngiou in order to perform scrambling code identification (Pg.

6, Par. 45).

Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Aikawa et al, further in view of Mathew et al.

As to claims 7 and 18, Aikawa teaches all the subject matters claimed above,

except for the searcher correlates the received signal with a scrambling code over a

search window to produce a list search result. Mathew, in the same field of endeavor,

teaches a searcher that correlates the received signal with a scrambling code over a

search window to produce a list search result (Fig. 7; Pg. 6, Par. 45). Therefore, it would

have been obvious to one of ordinary skill in the art to combine the teaching of Mathew

with Aikawa in order to perform scrambling code identification (Pg. 6, Par. 45).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aikawa

et al and Mathew et al, further in view of Papageorngiou et al.

As to claim 19, Aikawa and Mathew teach all the subject matters claimed above,

except for obtaining scrambling code groups and slot time of next cell in neighboring list.

Papageorngiou et al teach obtaining scrambling code groups and slot time of next cell in

neighboring list (Fig. 2, Block 202). Therefore, it would have been obvious to one of

ordinary skill in the art to combine the teaching of Papageorngiou et al in order to

perform secondary synchronization channel search at the code group (Fig. 2, Block

203).

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Aikawa et al, further in view of Mathew et al and Rick et al (US 2003/0086512).

As to claim 8, Aikawa teaches generating the first and second scrambling groups

(Pg. 1, Par. 8 and 9). Aikawa is silent about the searcher further correlates the received

signal with a scrambling code over a searach window to produce a list search result;

and the processor further directs the searcher to search a search window around the

offset associated with one or more of the first plurality of search results using one or

more scrambling codes identified by one or more of the second plurality of scrambling

code identifiers, respectively. Mathew, in the same field of endeavor, teaches a

searcher that correlates the received signal with a scrambling code over a search

window to produce a list search result (Fig. 4 and 7; Pg. 6, Par. 45). Therefore, it would

have been obvious to one of ordinary skill in the art to combine the teaching of Mathew

with Aikawa in order to perform scrambling code identification (Pg. 6, Par. 45). Rick, in

the same field of endeavor, teaches performing a search cycle step to search a search

window around the offset associated with one or more of the first plurality of search

results using one or more scrambling codes identified by one or more of the second

plurality of scrambling code identifiers, respectively (Fig. 3A, Blocks 302 and 304; Fig.

5A; Pg. 6, Par. 78-80). Therefore, it would have been obvious to one of ordinary skill in

the art to combine the teaching of Rick with Aikawa and Mathew in order to perform the

search cycle step to estimate one or more parameter(s) of a signal using dynamically variable search window (Pg. 2, Par. 21).

As to claim 9, Mathew teaches that a cell search method, wherein a scrambling code identifier is removed from the plurality of scrambling code identifiers when the list search result exceeds a predetermined threshold (Fig. 4 and 7; Par. 41 and 45-48). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Mathew with Aikawa in order to perform scrambling code identification (Pg. 6, Par. 45-48).

As to claim 10, Mathew teaches that the scrambling code identifiers corresponding to undetected neighbor cells (Fig. 4 and 7, Blocks 411 and 711).

As to claim 11, Mathew teaches that the scrambling code identifiers corresponding to previously identified cells (Fig. 4 and 7, Blocks 409 and 709).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aikawa et al, and further in view of Oh et al.

As to claim 13, Aikawa teaches all the subject matters claimed above, except for the predetermined threshold is variable increasing with an increase in the time lapsed since the associated offset was determined. Oh, in the same field of endeavor, teaches that the predetermined threshold is variable increasing with an increase in the average noise power (Fig. 4; Pg. 5, Par. 79-84). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Oh with Aikawa and Papageorngiou in order to assign the right scrambling code to the Rake receiver (Pg. 5, Par. 75).
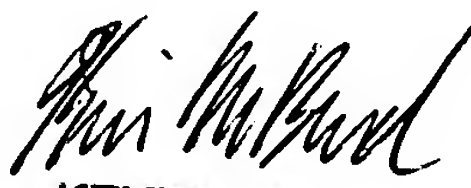
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Freshteh Aghdam
September 8, 2005

KEVIN BURD
PRIMARY EXAMINER